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EXAMINER	
NEURAUTER, GEORGE C	

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/762,917	COLLINS, HENRY	
	Examiner	Art Unit	
	George C. Neurauter, Jr.	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-20 are currently presented and have been examined.

Response to Arguments

Applicant's arguments filed 11 April 2006 have been fully considered but they are not persuasive.

The Applicant argues that Houle does not teach or suggest identifying a message as algorithmic information as recited. As shown previously, the Examiner interprets "algorithmic information" as repetitive or recurring string or data values that occur within a message stream of a plurality of messages that is consistent with the disclosures of the specification and the interpretation that those skilled in the art would reach.

Houle discloses:

"Many data compression methods rely on the fact that digital data and data files typically contain a significant amount of redundancy. Such "redundancy compression methods" have been used to compress data files so that they will occupy less space on a storage device or so that they can be transmitted in less time over a communications channel." (column 1, lines 25-30)

"Conventional redundancy compression has employed either a "linear traverse method" or a "hashing method" to search the prior textual characters. Both of these methods, however, have

disadvantages and drawbacks, especially where the data being compressed is image data, rather than textual data. Before describing these drawbacks, however, it is important to understand some of the aspects of image data. Image data includes a two-dimensional array of pixels. Each pixel may be considered to be the equivalent of a character in a text file. Each pixel represents a point in the image and includes data representing, for example, the color and intensity of the pixel. Because images may have entire areas that are uniform or quite similar in appearance (for example, a blue ocean constituting a large area of the image), pixel data may be extensively replicated in a patterned manner within the image. Thus, redundant pixels may be more likely to occur in certain positions relative to a target pixel than in other positions relative to that pixel." (column 2, lines 48-65)

"FIG. 2 is a flow diagram of the basic method of the present invention. The method shown in FIG. 2 is used for compressing an incoming data stream, which includes a plurality of incoming data pixels, of which a group of two or more comprise an incoming data stream. (As used herein, "pixel" means any data segment, data structure, or set of bits that define a picture element of an image regardless of color depth or colorspace model used, and includes character data.) The method

begins at a Start state 202. An incoming data stream (e.g., a data file or transmitted image) is read into a computer memory to obtain initial image data (Step 204). The data stream may represent an entire image or blocks defining a portion of an image if memory resources are exceeded. In this latter case, the blocks may be treated as "subimages" and separately compressed in accordance with the present invention. However, the present invention normally would be applied to compress a "moving window" of data representing portions of an image, such that the entire image is processed." (column 7, lines 19-36)

As shown by the teachings of Houle, a message stream or "data file" or "transmitted image" is readily identified as algorithmic information since the invention of Houle reads the stream into memory and processes the stream in accordance with the identification of redundant or recurring string or data values within the data stream. Since the claims nominally recite identifying a message as algorithmic information and the broadest reasonable interpretation of the claim as repetitive or recurring string or data values that occur within a message stream of a plurality of messages, identification of repetitive or recurring string or data values is clearly taught within the teachings of Houle in the context of identifying repetitive or recurring string or data values in order to compress the data.

The Applicant also argues that Houle does not teach or suggest an extractor separating a message having associated arguments.

Houle discloses:

"Once a first matching string is located, the process continues, using the predetermined non-linear traversing pattern to locate additional matching prior pixel strings, if any. Any longer match replaces an earlier, shorter match. Preferably, the method includes a reasonable limit on the number of prior pixels searched via the traversing pattern. Thus, the process of searching for matching prior pixel strings may stop before reaching the beginning of all prior pixels. The longest matching string is then encoded as a "copy token," which includes data indicating the non-linear pixel offset of the longest matching string and its string length. If no matching prior pixel is located for a target pixel during the process of traversing the prior pixels in the non-linear traversing pattern, the unmatched target pixel is encoded as a "literal token." The process of searching for matching strings continues to the end of the pixels comprising the image, thereby locating all copy tokens and all literal tokens to form a token set." (column 4, line 65-column 5, line 15)

As shown in Houle, Houle does disclose separating a message having associated arguments into constituent parts.

Therefore, the claims are not in condition for allowance. The disclosures of the cited references are applicable to the currently presented claims.

Claim Interpretation

The element "algorithmic information" defined on page 2, lines 5-7 of the specification and recited in claims 1-20 will be given its broadest reasonable interpretation and will be interpreted by the Examiner as repetitive or recurring string or data values that occur within a message stream of a plurality of messages that is consistent with the disclosures of the specification and the interpretation that those skilled in the art would reach. See MPEP § 2111.

The element "parameter information" defined on page 2, lines 7-8 of the specification and recited in claims 1-20 will be given its broadest reasonable interpretation and will be interpreted by the Examiner as non-repetitive or non-recurring data values within a message stream of a plurality of messages and/or residual information necessary to regenerate a data value that is consistent with the disclosures of the specification and the interpretation that those skilled in the art would reach. See MPEP § 2111.

The element "algorithmic sub-stream" defined on page 2, lines 5-6 and 29-30 of the specification and recited in claims 4-20 will be given its broadest reasonable interpretation and will be interpreted by the Examiner as a memory element that stores algorithmic information that is consistent with the disclosures of the specification and the interpretation that those skilled in the art would reach. See MPEP § 2111.

The element "parametric sub-stream" defined on page 2, lines 7-8 and 30 of the specification and recited in claims 7-8, 12-17, and 19-20 will be given its broadest reasonable interpretation and will be interpreted by the Examiner as a memory element that stores value or parameter information that is consistent with the disclosures of the specification and the interpretation that those skilled in the art would reach. See MPEP § 2111.

The Applicant has not provided a clear definition for the terms "argument", "argument identifier", "value", "value identifier", "value information", "message", "message identifier", and "algorithmic identifier" recited in claims 1-20 within the specification. Therefore, the Examiner will interpret these elements by their plain meaning as if the term was interpreted by one of ordinary skill in the art. See MPEP § 2111.01.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4-15, and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 5 710 719 to Houle.

Regarding claim 1, Houle discloses a method for extracting algorithmic information from a message stream, each message having associated arguments and each argument having an associated value, the method comprising the steps of:

(a) identifying a message as algorithmic information; (column 7, lines 19-36)

(b) identifying the value of an argument as parameter information the first time the value is encountered and (c) identifying the value of the argument as algorithmic information each subsequent time the value is encountered. (column 4, lines 27-column 5, line 15, specifically column 4, lines 27-29)

Regarding claim 2, Houle discloses the method of claim 1 wherein step (b) further comprises the steps of:

(b-a) identifying the value of an argument as parameter information the first time the value is encountered and (b-b) storing the identified value in an associated memory element. (column 4, lines 27-column 5, line 15, specifically column 4, lines 27-29 and column 5, lines 6-15; column 19, lines 52-67)

Regarding claim 4, Houle discloses the method of claim 1 further comprising the steps of storing a message identifier in an algorithmic sub-stream when a message is encountered (column 19, lines 52-67) and storing a value identifier in the algorithmic sub-stream when a value of an argument is encountered subsequent to the first time (column 19, lines 52-67 and column 20, lines 24-44).

Regarding claim 5, Houle discloses the method of claim 2 further comprising the steps of storing a message identifier in an algorithmic sub-stream when a message is encountered (column 19, lines 52-67) and storing a value identifier in the algorithmic sub-stream when a value of an argument is encountered subsequent to the first time, the value identifier comprising the location of the value in the associated memory element. (column 23, lines 1-15)

Regarding claim 6, Houle discloses a method for extracting algorithmic information from a message stream, each message having associated arguments and each argument having an associated value, and transmitting the extracted information from a server to a remote client (column 18, lines 35-48), the method comprising the steps of:

(a) identifying, at the server, a message as algorithmic information; (column 7, lines 19-36)

(b) storing a message identifier in an algorithmic sub-stream; (column 19, lines 52-67)

(c) identifying, at the server, a value of an argument associated with the message as parameter information the first time the value is encountered and (d) identifying, at the server, the value as algorithmic information each subsequent time the value is encountered. (column 4, lines 27-column 5, line 15, specifically column 4, lines 27-29)

Regarding claim 7, Houle discloses the method of claim 6 wherein step (c) comprises:

(c-a) identifying, at the server, a value of an argument associated with the message as parameter information the first time the value is encountered and (c-b) storing the parameter information in a parametric sub-stream. (column 4, lines 27-

column 5, line 15, specifically column 4, lines 27-29 and column 5, lines 6-15; column 19, lines 52-67)

Regarding claim 8, Houle discloses the method of claim 7 further comprising the step of compressing the parametric substream. (column 15, lines 22-32)

Regarding claim 9, Houle discloses the method of claim 6 wherein step (d) further comprises:

(d-a) identifying, at the server, the value as algorithmic information each subsequent time the value is encountered and (d-b) storing the algorithmic information in the algorithmic sub-stream. (column 19, lines 52-67 and column 20, lines 24-44).

Regarding claim 10, Houle discloses the method of claim 9 further comprising the step of compressing the algorithmic substream. (column 15, lines 22-32)

Regarding claim 11, Houle discloses the method of claim 6 further comprising the step of transmitting the algorithmic substream. (column 18, lines 35-48)

Regarding claim 12, Houle discloses the method of claim 7 further comprising the step of transmitting the parametric substream. (column 18, lines 35-48)

Regarding claim 13, Houle discloses an apparatus for extracting algorithmic information from a message stream, each message having associated arguments and each argument having an

associated value, and transmitting the extracted information via a network connection (column 18, lines 35-48), the apparatus comprising:

a transmitter in electrical communication with a network connection (column 18, lines 35-48);

a memory element in electrical communication with said transmitter, said memory element providing storage for an algorithmic sub-stream and a parametric sub-stream; an extractor in electrical communication with said memory element, said extractor separating a message having associated arguments into algorithmic information and parameter information and storing the algorithmic information in an algorithmic sub-stream (column 4, line 65-column 5, line 15), wherein said transmitter transmits the algorithmic sub-stream (column 18, lines 35-48).

Regarding claim 14, Houle discloses the apparatus of claim 13 wherein said extractor stores the parameter information in a parametric sub-stream. (column 4, lines 27-column 5, line 15, specifically column 4, lines 27-29 and column 5, lines 6-15; column 19, lines 52-67)

Regarding claim 15, Houle discloses the apparatus of claim 13 wherein said transmitter transmits the parametric sub-stream. (column 18, lines 35-48)

Regarding claim 17, Houle discloses the apparatus of claim 13 further comprising a compressor in electrical communication with said memory element and said transmitter, said compressor compressing the algorithmic sub-stream. (column 15, lines 22-32)

Regarding claim 18, Houle discloses a system for extracting algorithmic information from a message stream, each message having associated arguments and each argument having an associated value, and transmitting the extracted information from a server to a client via a connection, the system comprising:

a client including a receiver in electrical communication with the connection, the receiver receiving algorithmic information transmitted over the connection (column 18, lines 49-60); and

a server including a transmitter in electrical communication with the connection, the transmitter transmitting an alogorithmic sub-stream comprsing algorithmic information separated by the extractor over the connection (column 18, lines 35-48); an extractor separating a message having associated arguments into algorithmic information and parameter information; (column 4, line 65-column 5, line 15) and a memory element in electrical communication with said extractor, said memory element storing an algorithmic sub-stream including

algorithmic information separated by said extractor. (column 4, lines 27-column 5, line 15, specifically column 4, lines 27-29 and column 5, lines 6-15; column 19, lines 52-67)

Regarding claim 19, Houle discloses the system of claim 18 wherein the transmitter transmits a parametric sub-stream comprising the parameter information separated by the extractor, and the client further includes a client memory element in electrical communication with said receiver, said client memory element storing algorithmic and parametric sub-streams transmitted by said server. (column 18, lines 35-60, specifically lines 40-43)

Regarding claim 20, Houle discloses the system of claim 19 wherein said client further includes an extractor in electrical communication with said client memory element, said client extractor producing the message from the algorithmic and parametric sub-streams. (column 18, lines 49-60)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

> art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houle in view of "Stack".

Regarding claims 3 and 16, Houle discloses the method and apparatus of claim 2 and 13 respectively.

Houle does not disclose storing the identified argument in a stack memory element or wherein the memory element comprises a stack data structure, however, Houle does disclose that the memory element is a data structure (column 19, lines 53-65).

"Stack" does disclose a stack data structure (see entire reference).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since "Stack" discloses that using a stack

data structure enables data to be accessed in a last-in-first-out operation. In view of these specific advantages and that the references are directed to using data structures or memory elements in order to store data, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor, which would lead one of ordinary skill to reasonably expect a successful combination of the teachings.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Neurauter, Jr. whose telephone number is (571) 272-3918. The examiner can normally be reached on Monday through Friday from 9AM to 5:30PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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